I am writing to provide my comments as a peer reviewer of "Measuring the Public's Health" by Thacker et al. I have reviewed this excellent and important paper and have responses to the questions listed in your letter of Sept. 29, 2005:

1. Are objectives clearly stated and appropriate?

   YES. The objectives are to describe global measure of health and to introduce new measures needed to more meaningfully characterize health. The authors are totally successful in meeting these objectives.

2. Is the overall review (of traditional public health measures) appropriate for the stated objectives?

   YES. The review is very comprehensive, well documented, and balanced.

3. Are the methods used to review these public health measures appropriate for the stated objectives?

   YES. The methods, which involved a thorough literature review of all of the major articles, was appropriate for the stated objectives.

4. Are the findings from this review of measures presented and interpreted appropriately and completely?

   YES. The findings are justified in light of the evidence and based on an objective and thoughtful review of the literature.

5. Are the conclusions and recommendations appropriate and complete?

   YES. The carefully-worded conclusions are quite appropriate and complete, an impressive accomplishment in light of the breadth and complexity of the subject.

6. Are there any other comments on the report?

   This paper represents a seminal contribution which will, in my view, inform, stimulate, and enlighten public health leaders across the nation. It will have a significant positive impact on the process of setting rational public health policy.

Review
Measuring the Public's Health
by Thacker, Stroup, Carande-Kulis, Marks, Roy and Gerberding

The main objective of this paper is to review traditional public health measures, and to advance the thesis that alternative measures of public health are necessary. The objectives are clearly stated. The review of the traditional public health measures is good. The overall conclusions and recommendations are well-supported. My summary opinion is that the paper is a thoughtful discussion of how to measure the public's health, and is an important contribution.

I have a few specific suggestions.

1. The section on "characteristics of useful measures of the public's health could perhaps be expanded (page 9).

   For example, the sentence "the measure should detect both an absolute and relative change in health status over time" raised some questions. Perhaps it would help clarify matters if the authors gave an example of a measure that would not meet this criterion. The authors cite an example of percentage change but that would seem to be a relative rather than an absolute measure. Relative risks or attributable risks" would seem to meet only the relative change criteria.

   The characteristic that a "measure should be reliable, stable over time" should be clarified. Here, I assume that the authors are referring to the notion that the way the measurements are made should be consistent over time, but of course the value of the measurement could well change because of trends in time.

   Overall, I think this particular section could be strengthened considerably with some examples of measure that do or do not meet the specific criteria of useful measures of public's health.

2. I think the last two sentences of the paper either need a slight rewrite or earlier sections need to be strengthened to make clear what the authors are referring to. For example, the authors refer to "the tools proposed in this article", but it was not clear what specific tools the authors are referring to. Similarly, in the last sentence there is reference to the "new paradigm" but this is the first reference to a "new paradigm" and it is not clear which paradigm the authors are referring to.

3. I liked Figure 1. Ideally, it would have been better if the alternative measures could have been based on the same year. For example, DALY is dated 1996, but mortality is 2002. I assume Figure 1 refers only to the United States, in which case it should be made clear in the legend. I think there could have been a few more sentences of discussion of figure 1 in the text. Perhaps the authors could comment on how the rankings change for specific causes.

   Another comment on Figure 1 is that while "rankings" can be attractive, especially to the public and the media, they can also oversimplify matters. For example, two items could be ranked very differently but could be similar on the quantitative measurement scale.

Review of "Measuring the Public's Health"
Stephen B. Thacker, Donna F. Stroup, Vilma Carande-Kulis, James S. Marks, Kakoli Roy, Julie L. Gerberding

1. Objectives clearly stated & appropriate: Yes

2. Overall review of traditional public health measures appropriate for stated objectives: Yes

3. Methods used to review these public health measures appropriate for stated objectives: Yes

4. Findings from this review of measures are presented and interpreted appropriately and completely: Yes

5. Conclusions & recommendations appropriate & complete: Yes

6. General comments:

The authors are correct that we need more reliable and meaningful measures of "health of the general public. " No single measure is likely to capture all the features that make up "public health"; even the measures that do exist (mortality, morbidity, YPLL, DALY) have serious shortcomings in terms of the reliability, consistency, and meaningfulness of their definitions. The authors do a good job of communicating the limitations of the current measures. Addressing these limitations, and developing new measures, will require coordinated efforts among health agencies, as the authors indicate — but such efforts are essential, because only with reliable and consistent measures can public health programs be evaluated reliably.

Minor comment: Table 1 lists numbers of deaths in various age groups (2002). Two totals would be useful for purposes of interpreting these death counts:

	< 1 yr	1-14 yr	15-24 yr	25-64 yr	> 64 yr
Total #deaths	D[0]	D[1]	D[2]	D[3]	D[4]
Total #people	P[0]	P[1]	P[2]	P[3]	P[4]

(I seem to recall that the death rates increase to around 24 and then decline, and then increase again after about age 60.) If d_i[j] denotes the number of deaths (in 2002) in age group i (i = 0,1,2,3,4), due to cause j (j=1,2,3,4,5,6), then d_i[j]/D[j] would indicate the percentage of deaths in age group j due to cause i (e.g., 1,474 cancer deaths among those aged 1-14, but if there were only 10,000 deaths among 1-14-year-olds, then cancer accounts for almost 15% of all deaths in that age group; versus 391,001 cancer deaths among those over 64, but if there are 1.4 million deaths among 64+ people, then cancer would account for 28% of the deaths in that age group). Also d_i[j]/P[j] would indicate the "risk" to the average person in age group j due to cause i.